

M. PAK

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ENTERED <sup>1646</sup> #9

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/254,590 DATE: 11/16/2000  
TIME: 11:52:00

Input Set: A:\142107-3.app  
Output Set: N:\CRF3\11162000\1254590.raw

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SEQUENCE LISTING

4 (1) GENERAL INFORMATION:  
6 (i) APPLICANT: Adelman, John P.  
7 Maylie, James  
8 Bond, Chris T.  
9 Silvia, Christopher P.  
11 (ii) TITLE OF INVENTION: Small and Intermediate Conductance,  
12 Calcium-Activated Potassium Channels and Uses Thereof  
14 (iii) NUMBER OF SEQUENCES: 48  
16 (iv) CORRESPONDENCE ADDRESS:  
17 (A) ADDRESSEE: Townsend and Townsend and Crew LLP  
18 (B) STREET: Two Embarcadero Center, Eighth Floor  
19 (C) CITY: San Francisco  
20 (D) STATE: California  
21 (E) COUNTRY: USA  
22 (F) ZIP: 94111-3814  
24 (v) COMPUTER READABLE FORM:  
25 (A) MEDIUM TYPE: Floppy disk  
26 (B) COMPUTER: IBM PC compatible  
27 (C) OPERATING SYSTEM: PC-DOS/MS-DOS  
28 (D) SOFTWARE: PatecIn Release #1.0, Version #1.30  
30 (vi) CURRENT APPLICATION DATA:  
C--> 31 (A) APPLICATION NUMBER: US/09/254,590  
C--> 32 (B) FILING DATE: 10-Mar-1999  
33 (C) CLASSIFICATION:  
34 (vii) PRIOR APPLICATION DATA:  
36 (A) APPLICATION NUMBER: US 60/026,451  
37 (B) FILING DATE: 11-SEP-1996  
40 (A) APPLICATION NUMBER: US 60/040,052  
41 (B) FILING DATE: 07-MAR-1997  
44 (A) APPLICATION NUMBER: US 60/045,233  
45 (B) FILING DATE: 17-APR-1997  
48 (A) APPLICATION NUMBER: WO PCT/US97/16033  
49 (B) FILING DATE: 20-SEP-1997  
51 (viii) ATTORNEY/AGENT INFORMATION:  
52 (A) NAME: Weber, Kenneth A.  
53 (B) REGISTRATION NUMBER: 31,677  
54 (C) REFERENCE/DOCKET NUMBER: 014210-000730US  
56 (ix) TELECOMMUNICATION INFORMATION:  
57 (A) TELEPHONE: (415) 576-0200  
58 (B) TELEFAX: (415) 576-0300  
61 (2) INFORMATION FOR SEQ ID NO: 1:  
63 (i) SEQUENCE CHARACTERISTICS:  
64 (A) LENGTH: 561 amino acids  
65 (B) TYPE: amino acid  
66 (C) STRANDEDNESS:  
67 (D) TOPOLOGY: linear

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69 (ii) MOLECULE TYPE: protein  
 72 (ix) FEATURE:  
 73 (A) NAME/KEY: Protein  
 74 (B) LOCATION: 1..561  
 75 (D) OTHER INFORMATION: /note= "human small conductance,  
 76 calcium-activated potassium channel  
 77 protein 1 (hsk1)"  
 80 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:  
 82 Met Pro Gly Pro Arg Ala Ala Cys Ser Glu Pro Asn Pro Cys Thr Gln  
 83 1 5 10 15  
 85 Val Val Met Asn Ser His Ser Tyr Asn Gly Ser Val Gly Arg Pro Leu  
 86 20 25 30  
 88 Gly Ser Gly Pro Gly Ala Leu Gly Arg Asp Pro Pro Asp Pro Glu Ala  
 89 35 40 45  
 91 Gly His Pro Pro Gln Pro Pro His Ser Pro Gly Leu Gln Val Val Val  
 92 50 55 60  
 94 Ala Lys Ser Glu Pro Ala Arg Pro Ser Pro Gly Ser Pro Arg Gly Gln  
 95 65 70 75 80  
 97 Pro Glu Asp Gln Asp Asp Asp Glu Asp Asp Glu Glu Asp Gln Ala Gly  
 98 85 90 95  
 100 Arg Gln Arg Ala Ser Gly Lys Pro Ser Asn Val Gly His Arg Leu Gly  
 101 100 105 110  
 103 His Arg Arg Ala Leu Phe Glu Lys Arg Lys Arg Leu Ser Asp Tyr Ala  
 104 115 120 125  
 106 Leu Ile Phe Gly Met Phe Gly Ile Val Val Met Val Thr Glu Thr Glu  
 107 130 135 140  
 109 Leu Ser Trp Gly Val Tyr Thr Lys Glu Ser Leu Tyr Ser Phe Ala Leu  
 110 145 150 155 160  
 112 Lys Cys Leu Ile Ser Leu Ser Thr Ala Ile Leu Leu Gly Leu Val Val  
 113 165 170 175  
 115 Leu Tyr His Ala Arg Glu Ile Gln Leu Phe Met Val Asp Asn Gly Ala  
 116 180 185 190  
 118 Asp Asp Trp Arg Ile Ala Met Thr Cys Glu Arg Val Phe Leu Ile Ser  
 119 195 200 205  
 121 Leu Glu Leu Ala Val Cys Ala Ile His Pro Val Pro Gly His Tyr Arg  
 122 210 215 220  
 124 Phe Thr Trp Thr Ala Arg Leu Ala Phe Thr Tyr Ala Pro Ser Val Ala  
 125 225 230 235 240  
 127 Glu Ala Asp Val Asp Val Leu Leu Ser Ile Pro Met Phe Leu Arg Leu  
 128 245 250 255  
 130 Tyr Leu Leu Gly Arg Val Met Leu Leu His Ser Lys Ile Phe Thr Asp  
 131 260 265 270  
 133 Ala Ser Ser Arg Ser Ile Gly Ala Leu Asn Lys Ile Thr Phe Asn Thr  
 134 275 280 285  
 136 Arg Phe Val Met Lys Thr Leu Met Thr Ile Cys Pro Gly Thr Val Leu  
 137 290 295 300  
 139 Leu Val Phe Ser Ile Ser Ser Trp Ile Ile Ala Ala Trp Thr Val Arg  
 140 305 310 315 320  
 142 Val Cys Glu Arg Tyr His Asp Lys Gln Glu Val Thr Ser Asn Phe Leu

RAW SEQUENCE LISTING  
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Input Set : A:\142107-3.app  
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```

143          325          330          335
144 Gly Ala Met Trp Leu Ile Ser Ile Thr Phe Leu Ser Ile Gly Tyr Gly
145          340          345          350
146 Asp Met Val Pro His Thr Tyr Cys Gly Lys Gly Val Cys Leu Leu Thr
147          355          360          365
148 Gly Ile Met Gly Ala Gly Cys Thr Ala Leu Val Val Ala Val Ala
149          370          375          380
150 Arg Lys Leu Glu Leu Thr Lys Ala Glu Lys His Val His Asn Phe Met
151          385          390          395
152 Met Asp Thr Gln Leu Thr Lys Arg Val Lys Asn Ala Ala Ala Asn Val
153          400          405          410
154 Leu Arg Glu Thr Trp Leu Ile Tyr Lys His Thr Arg Leu Val Lys Lys
155          415          420          425
156 Pro Asp Gln Ala Arg Val Arg Lys His Gln Arg Lys Phe Leu Gln Ala
157          430          435          440
158 Ile His Gln Ala Gln Lys Leu Arg Ser Val Lys Ile Glu Gln Gly Lys
159          445          450          455
160 Leu Asn Asp Gln Ala Asn Thr Leu Thr Asp Leu Ala Lys Thr Gln Thr
161          460          465          470
162 Val Met Tyr Asp Leu Val Ser Glu Leu His Ala Gln His Glu Gln Leu
163          475          480          485
164 Glu Ala Arg Leu Ala Thr Leu Glu Ser Arg Leu Asn Ala Leu Gly Ala
165          490          495          500
166 Ser Leu Gln Ala Leu Pro Gly Leu Ile Ala Gln Ala Ile Arg Pro Pro
167          505          510          515
168 Pro Pro Pro Leu Pro Pro Arg Pro Gly Pro Gly Pro Gln Asp Gln Ala
169          520          525          530
170 Ala Arg Ser Ser Pro Cys Arg Trp Thr Pro Val Ala Pro Ser Asp Cys
171          535          540          545
172 Gly          545          550          555          560
173
190 (2) INFORMATION FOR SEQ ID NO: 2:
191 (i) SEQUENCE CHARACTERISTICS:
192 (A) LENGTH: 580 amino acids
193 (B) TYPE: amino acid
194 (C) STRANDEDNESS:
195 (D) TOPOLOGY: linear
196 (ii) MOLECULE TYPE: protein
197 (ix) FEATURE:
198 (A) NAME/KEY: Protein
199 (B) LOCATION: 1..580
200 (D) OTHER INFORMATION: /note= "rat small conductance,
201 calcium-activated potassium channel
202 protein 2 (rSK2)"
203 (ix) FEATURE:
204 (A) NAME/KEY: Region
205 (B) LOCATION: 135..462
206 (D) OTHER INFORMATION: /note= "core region of rSK2"
207 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
208 Met Ser Ser Cys Arg Tyr Asn Gly Gly Val Met Arg Pro Leu Ser Asn
209

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RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/254,590

DATE: 11/16/2000  
 TIME: 11:52:00

Input Set : A:\142107-3.spp  
 Output Set: N:\CRF3\11162000\I254590.raw

```

217      1          5          10          15
219  Leu Ser Ser Ser Arg Arg Asn Leu His Glu Met Asp Ser Glu Ala Gln
220      20          25          30
222  Pro Leu Gln Pro Pro Ala Ser Val Val Gly Gly Gly Gly Gly Ala Ser
223      35          40          45
225  Ser Pro Ser Ala Ala Ala Ala Ala Ser Ser Ser Ala Pro Glu Ile Val
226      50          55          60
228  Val Ser Lys Pro Glu His Asn Asn Ser Asn Asn Leu Ala Leu Tyr Gly
229      65          70          75          80
231  Thr Gly Gly Gly Gly Ser Thr Gly Gly Gly Gly Gly Gly Gly Gly
232      85          90          95
234  Gly Gly Gly Ser Gly His Gly Ser Ser Ser Gly Thr Lys Ser Ser Lys
235      100          105          110
237  Lys Lys Asn Gln Asn Ile Gly Tyr Lys Leu Gly His Arg Arg Ala Leu
238      115          120          125
240  Phe Glu Lys Arg Lys Arg Leu Ser Asp Tyr Ala Leu Ile Phe Gly Met
241      130          135          140
243  Phe Gly Ile Val Val Met Val Ile Glu Thr Glu Leu Ser Trp Gly Ala
244      145          150          155          160
246  Tyr Asp Lys Ala Ser Leu Tyr Ser Leu Ala Leu Lys Cys Leu Ile Ser
247      165          170          175
249  Leu Ser Thr Ile Ile Leu Leu Gly Leu Ile Ile Val Tyr His Ala Arg
250      180          185          190
252  Glu Ile Gln Leu Phe Met Val Asp Asn Gly Ala Asp Asp Trp Arg Ile
253      195          200          205
255  Ala Met Thr Tyr Glu Arg Ile Phe Phe Ile Cys Leu Glu Ile Leu Val
256      210          215          220
258  Cys Ala Ile His Pro Ile Pro Gly Asn Tyr Thr Thr Trp Thr Ala
259      225          230          235          240
261  Arg Leu Ala Phe Ser Tyr Ala Pro Ser Thr Thr Thr Ala Asp Val Asp
262      245          250          255
264  Ile Ile Leu Ser Ile Pro Met Phe Leu Arg Leu Tyr Leu Ile Ala Arg
265      260          265          270
267  Val Met Leu Leu His Ser Lys Leu Phe Thr Asp Ala Ser Ser Arg Ser
268      275          280          285
270  Ile Gly Ala Leu Asn Lys Ile Asn Phe Asn Thr Arg Phe Val Met Lys
271      290          295          300
273  Thr Leu Met Thr Ile Cys Pro Gly Thr Val Leu Leu Val Phe Ser Ile
274      305          310          315          320
276  Ser Leu Trp Ile Ile Ala Ala Trp Thr Val Arg Ala Cys Glu Arg Tyr
277      325          330          335
279  His Asp Gln Gln Asp Val Thr Ser Asn Phe Leu Gly Ala Met Trp Leu
280      340          345          350
282  Ile Ser Ile Thr Phe Leu Ser Ile Gly Tyr Gly Asp Met Val Pro Asn
283      355          360          365
285  Thr Tyr Cys Gly Lys Gly Val Cys Leu Leu Thr Gly Ile Met Gly Ala
286      370          375          380
288  Gly Cys Thr Ala Leu Val Val Ala Val Val Ala Arg Lys Leu Glu Leu
289      385          390          395          400

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RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/254,590

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Input Set : A:\142107-3.app  
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```

291 Thr Lys Ala Glu Lys His Val His Asn Phe Met Met Asp Thr Gln Leu
292                               405         410         415
293 Thr Lys Arg Val Lys Asn Ala Ala Ala Asn Val Leu Arg Glu Thr Trp
294                               420         425         430
295 Leu Ile Tyr Lys Asn Thr Lys Leu Val Lys Lys Ile Asp His Ala Lys
296                               440         445
297 Val Arg Lys His Gln Arg Lys Phe Leu Gln Ala Ile His Gln Leu Arg
298                               450         455         460
299 Ser Val Lys Met Glu Gln Arg Lys Leu Asn Asp Gln Ala Asn Thr Leu
300                               470         475         480
301 Val Asp Leu Ala Lys Thr Gln Asn Ile Met Tyr Asp Met Ile Ser Asp
302                               485         490         495
303 Leu Asn Glu Arg Ser Glu Asp Phe Glu Lys Arg Ile Val Thr Leu Glu
304                               500         505         510
305 Thr Lys Leu Glu Thr Leu Ile Gly Ser Ile His Ala Leu Pro Gly Leu
306                               515         520         525
307 Ile Ser Glu Thr Ile Arg Gln Gln Gln Arg Asp Phe Ile Glu Thr Gln
308                               530         535         540
309 Met Glu Asn Tyr Asp Lys His Val Thr Tyr Asn Ala Glu Arg Ser Arg
310                               545         550         555
311 Ser Ser Ser Arg Arg Arg Ser Ser Ser Thr Ala Pro Pro Thr Ser
312                               565         570         575
313 Ser Glu Ser Ser
314                               580
315 (2) INFORMATION FOR SEQ ID NO: 3:
316 (i) SEQUENCE CHARACTERISTICS:
317 (A) LENGTH: 553 amino acids
318 (B) TYPE: amino acid
319 (C) STRANDEDNESS:
320 (D) TOPOLOGY: linear
321 (ii) MOLECULE TYPE: protein
322 (ix) FEATURE:
323 (A) NAME/KEY: Protein
324 (B) LOCATION: 1..553
325 (D) OTHER INFORMATION: /note= "N-terminally truncated form
326 of rat small conductance,
327 calcium-activated potassium channel
328 protein 3 (rSK3)"
329 (ix) FEATURE:
330 (A) NAME/KEY: Region
331 (B) LOCATION: 109..436
332 (D) OTHER INFORMATION: /note= "core region of rSK3"
333 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3
334 Met Ser Ser Cys Lys Tyr Ser Gly Gly Val Met Lys Pro Leu Ser Arg
335                               5         10         15
336 Leu Ser Ala Ser Arg Arg Asn Leu Ile Glu Ala Glu Pro Glu Gly Gln
337                               20         25         30
338 Pro Leu Gln Leu Phe Ser Pro Ser Asn Pro Pro Glu Ile Ile Ile Ser
339                               35         40         45
340

```

### VERIFICATION SUMMARY

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PATENT APPLICATION: US/09/254,590

DATE: 11/16/2000

TIME: 11:52:01

Input Set : A:\142107-3.app

Input Set : A:\142107-3.app  
Output Set: N:\CRF3\11162000\I254590.raw

[A] APPLICATION NUMBER: 1									
L:31	M:220	C:	Keyword misspelled or invalid format, [(B) FILING DATE: 1]						
L:32	M:220	C:	Keyword misspelled or invalid format, [(B) FILING DATE: 1]						
L:595	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=5, Value=[DNA]						
L:611	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=6, Value=[DNA]						
L:627	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=7, Value=[DNA]						
L:643	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=8, Value=[DNA]						
L:659	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=9, Value=[DNA]						
L:675	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=10, Value=[DNA]						
L:691	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=11, Value=[DNA]						
L:1477	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=12, Value=[DNA]						
L:1493	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=13, Value=[DNA]						
L:1509	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=14, Value=[DNA]						
L:1525	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=15, Value=[DNA]						
L:1874	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=16, Value=[DNA]						
L:1890	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=17, Value=[DNA]						
L:1906	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=18, Value=[DNA]						
L:1922	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=19, Value=[DNA]						
L:1938	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=20, Value=[DNA]						
L:1954	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=21, Value=[DNA]						
L:1970	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=22, Value=[DNA]						
L:1986	M:246	W:	Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE: 1, SeqNo=23, Value=[DNA]						
L:2285	M:343	W:	(46) "n" or "Xaa" used, for SEQ ID# 45						
L:2286	M:343	W:	(46) "n" or "Xaa" used, for SEQ ID# 45						
L:2312	M:343	W:	(46) "n" or "Xaa" used, for SEQ ID# 45						